United States Department of Agriculture
Natural Resources Conservation Service

OMB No. 0578-0030
NRCS-PDM-20

DAMAGE SURVEY REPORT (DSR)
Emergency Watershed Protection Program – Recovery

Section 1A

Date of Report: 02/25/06

DSR Number: 019-05-003R Project Number: Choupique Bayou - Ch 28 to Ch 29 (Behind Bayou Circle Residential Area

Section 1B Sponsor Information

Sponsor Name: Gravity Drainage Board GDD No. 5, Ward 4

Address: 1331 Swisco Rd.

City/State/Zip: Sulphur, LA 70665

Telephone Number: (337) 625 3851 Fax: (337) 625 8402

NRCS Entry Only
Eligible: Yes X No ___
Approved: Yes X No ___
Funding Priority Number (from Section 4) 2e
Limited Resource Area: Yes___ No X

Section 1C Site Location Information

County: Calcasieu Parish State: LA Congressional District: 07

Latitude: Start: N 30.19020891 End: N ~~30.19475483~~ 30.2102
Longitude: Start: W 93.42996446 End: W ~~93.43200370~~ 93.4354
Section: 18 Township: 10S Range: 10W

UTM Coordinates: Start: 15- 458610E, 3339940N; End 458416E, 3340445N

Drainage Name: Choupique Bayou Reach: ~~CH 28 to CH 29~~ (Behind Bayou Circle Residential area) TO SOUTH I-10 ROW 8200 LF

Damage Description: Trees, branches and other debris in channel causing blockage and increased flooding to homes

Section 1D Site Evaluation

All answers in this Section must be YES in order to be eligible for EWP assistance.

Site Eligibility	YES	NO	Remarks
Damage was a result of a natural disaster?*	X		Hurricane Rita wind and storm damage
Recovery measures would be for runoff retardation or soil erosion prevention?*	X		Reduce upstream flooding , streambank erosion, and scour erosion
Threat to life and/or property?*	X		Reduce flooding upstream of channel blockage where homes and school is located
Event caused a sudden impairment in the watershed?*	X		Hurricane deposited debris in channel that will likely cause flooding after next major rainfall event
Imminent threat was created by this event?**	X		Flood damage to homes and school likely after next major rainfall event.
For structural repairs, not repaired twice within ten years?**	X		No evidence of repairs to pipes culverts or roads in past several years
Site Defensibility			
Economic, environmental, and social documentation adequate to warrant action? (Go to pages 3, 4, 5 and 6 ***)	X		See attached documentation
Proposed action technically viable? (Go to Page 9 ***)	X		See attached documentation

Have all the appropriate steps been taken to ensure that all segments of the affected population have been informed of the EWP program and its possible effects? YES X NO ____
Comments: GDD No. 5 Ward 4 has been informed of plans to remove debris

* Statutory
** Regulation
*** DSR Pages 3 through 6 and 9 are required to support the decisions recorded on this summary page. If additional space is needed on this or any other page in this form, add appropriate pages.

DSR NO: 019-05-003R

Section 1E Proposed Action

Describe the preferred alternative from Findings: Section 5 A: FOR REACH 1 (DOWNSTREAM)

Remove downed trees, branches and other debris by working from one side of the channel. All work will be done from the east side where much of the natural riparian habitat has been previously cleared for urban development and small aquaculture activities. Haul debris to the northern most end of the open access area along the reach which is located on the west side of the channel. Offload for burning and burying onsite. REACH TWO (UPSTREAM) WILL BE WORKED FROM WITHIN CHANNEL.

Total installation cost identified in this DSR: Section 3: ~~$ 22,593.00~~ $127,140 BTS 3/13/06

Section 1F NRCS State Office Review and Approval

Reviewed By: _____ Date Reviewed: 3/20/06
State EWP Program Manager

Approved By: _____ Date Approved: _____
State Conservationist

PRIVACY ACT AND PUBLIC BURDEN STATEMENT

NOTE: The following statement is made in accordance with the Privacy Act of 1974, (5 U.S.C. 552a) and the Paperwork Reduction Act of 1995, as amended. The authority for requesting the following information is 7 CFR 624 (EWP) and Section 216 of the Flood Control Act of 1950, Public Law 81-516, 33 U.S.C. 701b-1; and Section 403 of the Agricultural Credit Act of 1978, Public Law 95-334, as amended by Section 382, of the Federal Agriculture Improvement and Reform Act of 1996, Public Law 104-127, 16 U.S.C. 2203. EWP, through local sponsors, provides emergency measures for runoff retardation and erosion control to areas where a sudden impairment of a watershed threatens life or property. The Secretary of Agriculture has delegated the administration of EWP to the Chief or NRCS on state, tribal and private lands.

Signing this form indicates the sponsor concurs and agrees to provide the regional cost-share to implement the EWP recovery measure(s) determined eligible by NRCS under the terms and conditions of the program authority. Failure to provide a signature will result in the applicant being unable to apply for or receive a grant the applicable program authorities. Once signed by the sponsor, this information may not be provided to other agencies. IRS, Department of Justice, or other State or Federal Law Enforcement agencies, and in response to a court or administrative tribunal.

The provisions of criminal and civil fraud statutes, including 18 U.S.C. 286, 287, 371, 641, 651, 1001; 15 U.S.C. 714m; and 31 U.S.C. 3729 may also be applicable to the information provided. According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0578-0030. The time required to complete this information collection is estimated to average 117/1.96 minutes/hours per response, including the time for reviewing instructions, searching existing data sources, field reviews, gathering, designing, and maintaining the data needed, and completing and reviewing the collection information.

USDA NONDISCRIMINATION STATEMENT

"The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.)

Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write USDA, Director of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-941 0 or call (800)795-3272 (voice) or (202)720-6382 (TDD). USDA is an equal opportunity provider and employer.

Civil Rights Statement of Assurance

The program or activities conducted under this agreement will be in compliance with the nondiscrimination provisions contained in the Titles VI and VII of the Civil Rights Act of 1964, as amended; the Civil Rights Restoration Act of 1987 (Public Law 100-259); and other nondiscrimination statutes: namely, Section 504 or the Rehabilitation Act of 1973, Title IX of the Amendments of 1972, the Age Discrimination Act of 1975, and the Americans with Disabilities Act of 1990. They will also be in accordance with regulations of the Secretary of Agriculture (7 CFR 15, 15a, and 15b), which provide that no person in the United States shall on the grounds of race, color, national origin, gender, religion, age or disability, be excluded from participation in, be denied the benefits of, or otherwise subjected to discrimination under any program or activity receiving Federal financial assistance from the U.S. Department of Agriculture or any agency thereof.

DSR NO: 019-05-003R

Section 2 Environmental Evaluation

2A Resource Concerns	2B Existing Condition	2C Alternatives and Effects		
		Proposed Action	**No Action**	**Alternative**
		Remove logs and debris using one side excavation from east side of channel. Burn and bury onsite	**Leave logs and debris in channel**	**Remove logs/debris from within channel using marine equipment.. Transport and offload for burn/ bury**
		2D Effects of Alternatives		
Soil				
Bank Erosion	Stable except for exposed soil around uprooted trees on stream bank	Cause temporary increase in bank erosion from removal of root mass and construction activities on east side of channel.	Erosion from root mass will stabilize, but increased upstream flooding will cause additional bank erosion and undercutting	Cause temporary increase in bank erosion from removal of root mass and construction activities.
Compaction	No compaction	Heavy equipment will cause moderate soil compaction at access points along east side channel	No compaction ,	Heavy equipment will cause minimal soil compaction only at burn and bury location
Water				
Flooding	Property upstream of debris is subject to damages from flooding after future heavy rainfall events	Upstream flooding will be reduced and damages to property will be minimized from heavy rainfall events.	Property upstream of debris blockage will be subject to damages from future heavy rainfall events	Upstream flooding will be reduced and damages to property will be minimized from heavy rainfall events
Inadequate outlets	Debris is blocking outlets	Outlets will be opened, flooding will be reduced	Debris will accumulate and flooding will increase	Outlets will be opened, and flooding will be reduced
Excessive Sediments and turbidity	Water in stream is brown and turbid. Mod. sediment	Heavy equipment and removal of root mass will cause short term increase in sediment and turbidity.	Sed.and turbidity will increase as result of stream bank erosion and scour damage from flooding	Disturbance and removal of root mass will cause short term increase in sediment and turbidity
Stream health (including SVAP))	5.0 (poor) See attached SVAP	5.0 (poor) See attached SVAP	5.0 (poor) See attached SVAP	5.3 (poor) See attached SVAP
Air				
Particulate Matter less than PM 10	No particulate matter is being generated by debris in channel	Temporary increase in particulate matter above PM 10 from smoke during burning	No change in particulate matter	Temporary increase in particulate matter above PM 10 from smoke during burning.
Plant				
Productivity, Health and Vigor of Riparian Vegetation	Many riparian trees are wind blown. Natural regeneration will occur where the canopy has been opened to sunlight	Some standing and downed trees will be removed for equipment access on east side, but most is open large yards and lawns	No trees will be disturbed by removal. Natural regeneration will occur in areas where the canopy has been opened to light	Work will be done within channel to avoid impacts to riparian areas. Minimal impact at open offloading and burn/bury site
Productivity, Health and Vigor of Stream Aquatic Vegetation	Aquatic plants are limited to filamentous algae and phytoplankton. Very little rooted submergent or emergent vegetation.	Project will not significantly impact aquatic vegetation. Some decrease in algae from improved flow and slight increase in submergent vegetation with clearer water	Stream aquatic growth will be the same as existing condition with excessive algae growth and limited submergent vegetation	Project will not significantly impact aquatic vegetation. Some decrease in algae from improved flow and slight increase in submergent vegetation with clearer water
Animal				
Inadequate Cover/Shelter for Stream Fisheries (also see SVAP under "Water"	Abundant fish cover and shelter is provided by downed trees and other debris in and by overhanging canopy.	Debris will be removed and result in less instream cover and reduced shading from overhanging cover, but adequate amounts will remain	Fish cover and shelter will remain the same. Water quality and quantity will remain the most limiting factors for fisheries	Debris will be removed and result in less instream cover and reduced shading from overhangs, but adequate amounts will remain
Inadequate Cover/Shelter for Wildlife along Stream Corridor	Riparian forest buffers are extensive in undeveloped segments of the stream channel. Buffers and travel corridors are limited in areas of urban development on east	Slight reduction in cover on east side of channel where some trees and cover will be removed for access. Most of east side is open urban yards/lawns	Extensive riparian forest buffers will remain along stream channel. Buffers and travel corridors will remain limited in urban areas	Work will be done within channel to avoid impacts to habitat along corridor. Offload and burn/bury sites are primarily open areas
Other				
Aesthetics	Interspersed trees and natural areas in proximity to homes results in attractive landscape except for impacts of tree and property damage	Access from east side will avoid loss of trees along most of the channel and protect visual aspects of the overall urban environment	The landscape will remain the same except for any changes that may be caused by flooding	Access will reduce the amount of debris in channel behind urban area. Work will be done within channel and aesthetics will improve
Mosquito and Insect Vectors	Water in channel is deep. Mosquito habitat occurs in adjacent shallow wetlands	Reduced flooding will reduce mosquito habitat in adjacent shallow floodplain pools.	Stagnant pools providing habitat for mosquitos will increase due to flooding.	Reduced flooding will reduce mosquito habitat in adjacent shallow floodplain pools.

DSR NO: 019-05-003R

Section 2E Special Environmental Concerns

Resource Consideration	Existing Condition	Alternatives and Effects		
		Proposed Action	No Action	Alternative
Clean Water Act Waters of the U.S.	Fair Water Quality	Improved water quality. CWA 404 Permit required. Water Quality Certification possible.	Decreased water quality. Increased blockage and flooding	Improved water quality. CWA 404 Permit required. Water Quality Certification possible.
Coastal Zone Management Areas	N/A	N/A	N/A	N/A
Coral Reefs	N/A	N/A	N/A	N/A
Cultural Resources	Use FOTG guidance. State level review needed	Same as existing	Same as existing	Same as existing
Endangered and Threatened Species	Use FOTG guidance USFWS/LDWF list shows species in parish, but none are likely in project area	No impacts	No impacts	No impacts
Environmental Justice	Not a factor in this project area	Not a factor in this project area	Not a factor in this project area	Not a factor in this project area
Essential Fish Habitat	No essential fish habitat within this project area	No essential fish habitat within this project area	No essential fish habitat within this project area	No essential fish habitat within this project area
Fish and Wildlife Coordination	No stream modification proposed	Will coordinate if issues arise in CWA 404 permit application process	N/A	Will coordinate if issues arise in CWA 404 permit application process
Floodplain Management	Project boundary is within 100 year floodplain	Improve drainage and reduce level of flooding to pre hurricane conditions	N/A	If selected, project will improve drainage and reduce level of flooding to pre-storm conditions
Invasive Species	Some Chinese Tallow trees along channel in scattered segments	Will remove some invasive trees at access locations and allow increased control opportunities	Chinese Tallow likely increase as natural part of invasion	All work will be done within channel and have no impact on invasive adjacent Chinese Tallow tree.
Migratory Birds	Provides habitat for neotropical migrants	Minimal impact on neotropical migrants where trees are removed	Continue to provide same level of habitat	No impact on neotropical migrants will occur. No habitat destroyed by in - channel work
Natural Areas	Use FOTG guidance. No natural areas identified in project area	Use FOTG guidance. No natural areas identified in project area	Use FOTG guidance. No natural areas identified in project area	Use FOTG guidance. No natural areas identified in project area
Prime and Unique Farmlands	Use FOTG guidance and soil survey. Mt soil occurs in project area , but not prime in urban area	Mt soil occurs in project area, but not prime when in urban area. No impact will occur	Mt soil occurs in project area , but not prime in urban area	Mt soil occurs in project area, but not prime when in urban area. No impact will occur
Riparian Areas	Downed timber has reduced and altered forested riparian habitat on west side. West side is predominately open	Some standing timber will be removed on east side offload burn/bury site. Will restore naturally	Downed timber and altered forest riparian area on west side will remain until natural process restores habitat	Work will be done from within channel to avoid impacts to riparian habitat
Scenic Beauty	Use FOTG guidance. Downed timber has reduced aesthetics of stream and riparian areas	Aesthetics will be improved by removing downed trees in urban areas and within channel	Downed timber in stream and along riparian areas will continue to reduce aesthetics.	Stream aesthetics will be restored, Riparian habitat will not be noticeably impacted
Wetlands	Downed timber and debris has partially filled wetlands with debris and altered functions/values	Removal of debris will have minimal impacts on wetland functions and values.	Wetland functions and values will remain in current conditions	Removal of debris will have minimal impacts on wetland functions and values.
Wild and Scenic Rivers	Use FOTG guidance. No listed streams affected by project	No impact on listed streams or rivers	No impact on listed streams or rivers	No impact on listed streams or rivers

Completed By: Steve Tully, Biologist Date: 02/23/2006

DSR NO: 019-05-003R

Section 2F Economic

This section must be completed by each alternative considered (attach additional sheets as necessary).

	Future Damages ($)	Damage Factor (%)	Near Term Damage Reduction
Properties Protected (Private)			
23 Homes x $111,699 each (see attached worksheet)	**$2,569,067**	**25%**	**$642,267**
Properties Protected (Public)			
Public Utilities (buried and surface)	**$25,000**	20% ~~50%~~	~~$12,500~~ $5000
Business Losses			
None	**0**		**0**
Other			
None	**0**		**0**
			$642,267
Total Near Term Damage Reduction $			~~$654,767~~
Net Benefit (Total Near Term Damage Reduction minus Cost from Section 3)			~~$630,315~~ $520,127

Note: All homes in this estimate were of similar size, construction, and age (see attached photos).

Completed By: Mark D. Conkling, Resource Specialist Date: February 24, 2006

DSR NO: 019-05-003R

Section 2G Social Consideration

This section must be completed by each alternative considered (attach additional sheets as necessary).

	YES	NO	Remarks
Has there been a loss of life as a result of the watershed impairment?		X	
Is there the potential for loss of life due to damages from the watershed impairment?	X		Emergency vehicle access to areas affected could be restricted.
Has access to a hospital or medical facility been impaired by watershed impairment?		X	
Has the community as a whole been adversely impacted by the watershed impairment (life and property ceases to operate in a normal capacity)	X		Impairment increases flooding impact throughout community. Loss of electrical power and communications was experienced.
Is there a lack or has there been a reduction of public safety due to watershed impairment?	X		Future events could impact nearby roadways, bridges and access to emergency services.

Completed By: Mark D. Conkling, Resource Specialist Date: February 24, 2006

DSR NO: 019-05-003R

Section 2H Group Representation and Disability Information

This section is completed only for the preferred alternative selected.

Group Representation	Number		
American Indian/Alaska Native Female Hispanic			
American Indian/Alaska Native Female Non-Hispanic			
American Indian/Alaska Native Male Hispanic			
American Indian/Alaska Native Male Non-Hispanic			
Asian Female Hispanic			
Asian Female Non-Hispanic			
Asian Male Hispanic			
Asian Male Non-Hispanic			
Black or African American Female Hispanic			
Black or African American Female Non-Hispanic			
Black or African American Male Hispanic			
Black or African American Male Non-Hispanic			
Hawaiian Native/Pacific Islander Female Hispanic			
Hawaiian Native/Pacific Islander Female Non-Hispanic			
Hawaiian Native/Pacific Islander Male Hispanic			
Hawaiian Native/Pacific Islander Male Non-Hispanic			
White Female Hispanic	3	1.0%	**1**
White Female Non-Hispanic	128	44.3%	**30**
White Male Hispanic	4	1.4%	**1**
White Male Non-Hispanic	154	53.3%	**37**
Total Group	289	100.0%	**69**

NOTE: This demographic data was taken from the 2000 US Census. See the attached tables for details. The data indicates there are 289 persons in 101 households. 289 p/101 h = 3 persons/household. 23 h x 3 p/h = **69** people in the area affected. The breakdown by race and sex was reduced proportionally.

Census tract: Tract 34, Blocks 1006 and 1026

Completed By: Mark D. Conkling Date: February 24, 2006

Section 2I. Required consultation or coordination between the lead agency and/or the RFO and another governmental unit including tribes:

Easements, permissions, or permits:

Access to channel from private properties will require easements/permission to be obtained by sponsor. Recommend consultation of contractor for Right of Way access to stream to accommodate equipment being used. Coordination will be handled by NRCS representative to reduce amount of impact to surrounding environment. Physical access can be gained from east side of channel behind residential neighborhood with large yards/lawns that back up to channel or at road access points downstream from work segment. Need to consider accommodations for barge and marine equipment when selecting access points if work is accomplished using the in-channel alternative.

Will need CWA 404 permit and Water Quality certification possibly needed because of potential of removing roots masses and grubbing stumps.

Will need Burn Permit from Calcasieu Parish Government in order to burn debris onsite

Mitigation Description:

All work will be done from the east side of the channel where much of the natural riparian habitat has been previously cleared for urban development and small aquaculture activities. Debris will be hauled to the northern most end of the open access area on west side of channel for burning and burying on site in order to minimize damage to additional habitat and residential areas. Burning and burying will take place in areas that have previously been cleared to further eliminate the loss of natural riparian habitat. Proposed action will help restore hydraulic function to downstream wetlands and reduce mosquito breeding areas and vector problems in adjacent floodplains. Action will be completed without interruption to reduce impacts to stream fisheries, wildlife, and local residents. UPSTREAM REACH WILL BE WORKED FROM WITHIN CHANNEL

Agencies, persons, and references consulted, or to be consulted:

Corps of Engineers, New Orleans District
Louisiana Department of Environmental Quality
Louisiana Department of Wildlife and Fisheries
Calcasieu Parish Government

DSR NO: 019-05-003R

Section 3 Engineering Cost Estimate

Completed By: Steve Garner(revised BAS) Date: 2/25/06

This section must be completed by each alternative considered (attach additional sheets as necessary).

Proposed Recovery Measure (including mitigation)	Quantity	Units	Unit Cost ($)	Amount ($)
Mobilization/Demobilization	1	LS	10,000	10,000
Channel Obstruction Removal (Light)	8200	LF	13.30	109,060
Seeding, sprigging, mulching	2	AC	200	400
Flexifloat Barge Rental (four units @ $32 ea/day)	60	Days	128	7680
		Total Installation Cost (Enter in Section 1F)$		127,140

Alternative Recovery Measure (including mitigation)	Quantity	Units	Unit Cost ($)	Amount ($)
Mobilization/Demobilization	1	LS	10,000	10,000
Channel Obstruction Removal (Light)	8200	LF	13.30	109,060
Seeding, sprigging, mulching	10	AC	200	2000
Flexifloat Barge Rental (four units @ $32 ea/day)	60	Days	128	7680
		Total Installation Cost (Enter in Section 1F)$		128,740

Unit Abbreviations:

AC Acre
CY Cubic Yard
EA Each
HR Hour
LF Linear Feet
LS Lump Sum
SF Square Feet
SY Square Yard
TN Ton
Other (Specify)

NOTE: Revisions made by BAS. See Attached note to file for explanation.

DSR NO: 019-05-003R

Section 4 NRCS EWP Funding Priority

Complete the following section to compute the funding priority for the recovery measures in this application

(see instructions on page 10).

Priority Ranking Criteria	**Yes**	**No**		**Ranking Number Plus Modifier**
1. Is this an exigency situation?		X		
2. Is this a site where there is serious, but not immediate threat to human life?	X			2e
3. Is this a site where buildings, utilities, or other important infrastructure components are threatened?	X			
4. Is this site a funding priority established by the NRCS Chief?		X		
The following are modifiers for the above criteria			**Modifier**	
a. Will the proposed action or alternatives protect or conserve federally-listed threatened and endangered species or critical habitat?				
b. Will the proposed action or alternatives protect or conserve cultural sites listed on the National Register of Historic Places?				
c. Will the proposed action or alternatives protect or conserve prime or important farmland?				
d. Will the proposed action or alternatives protect or conserve existing wetlands?				
e. Will the proposed action or alternatives maintain or improve current water quality conditions?			e	
f. Will the proposed action or alternatives protect or conserve unique habitat, including but not limited to, areas inhabited by State-listed species, fish and wildlife management area, or State identified sensitive habitats?				

Enter priority computation in Section 1A, NRCS Entry, Funding Priority Number.

Remarks:

DSR NO: 019-05-003R

Section 5A Findings

Finding: Indicate the preferred alternative from Section 2 (Enter to Section 1E):

Remove downed trees, branches and other debris by working within the channel using marine equipment. Transport debris on barge to open access area on north end of reach (west side of channel) and offload for burning and burying onsite

I have considered the effects of the action and the alternatives on the Environmental Economic, Social; the Special Environmental Concerns; and the extraordinary circumstances (40 CFR 1508.27). I find for the reasons stated below, that the preferred alternative:

__X__ Has been sufficiently analyzed in the EWP PEIS (reference all that apply)
Chapter __5.2.2.1.2
Chapter _____
Chapter _____
Chapter _____
Chapter _____

____ May require the preparation of an environmental assessment or environmental impact statement. The action will be referred to the NRCS State Office on this date:

NRCS representative of the ~~DSR team~~:
Steve Garner, Mark Conkling, and Steve Tully Date: February 25, 2006

Section 5B Comments:

Section 5C **Sponsor Concurrence:** W. L. Boyd

Sponsor Representative

Title: Chairman Board Date: 3-1-06

Section 6 Attachments:
A. Location Map
B. Site Plan or Sketches
C. Other (explain)

SPONSOR CONCURRENCE WITH REVISIONS W. L. Boyd 3-16-06
REPRESENTATIVE DATE

SECTION 6

ATTACHMENTS

NOTE TO FILE

March 13, 2006

DSR 019-05-003R and DSR 019-05-058R are both on Bayou Choupique. The original DSR019-05-003R considered working a reach on the lower end of the channel from point Lat. 30.190209 Long. -93.429964 to Lat. 30.194755 Long. -93.43200 (approximately 1825 LF). DSR 019-05-058R (also on Choupique) originally indicated work to be performed from south of I-10 at point Lat 30.20838 Long. -93.4350 northward to point Lat. 30.21247 Long. -93.43643 north of I-10 and another reach south of US Hwy 90.

Due to environmental and constructability constraints, the work south of I-10 should be performed as one reach (that originally in both DSR should be combined). The channel has spoil banks with mature riparian areas that should not be trafficked within this reach; therefore the DSR indicated work to be performed in the reach south of I-10 in DSR 019-05-058 must per performed with floating equipiment from within the channel. Since there can not be any access along the Interstate ROW, the only feasible alternative is to work from the south within the channel with floating equipment from the point where the original DSR 019-05-003R upstream limits ended. This will require all debris within the channel to be removed in order gain access to the upper reach immediately south of I-10. For this reason the work within DSR 019-05-003R has been revised to include the entire reach of Choupique Bayou from south of the I-10 ROW to the original end point Lat. 30.190209 Long. -93.429964 (approximately 8,200 LF). A new cost estimate has been made for this DSR 019-05-003R to reflect this change.

Subsequently, the work within DSR 019-05-058R has also been changed to reflect that work north of the I-10 ROW upstream to the south US Hwy 90 ROW for the same reasons as stated above for the lower reach. Again, in order to gain access to that reach immediately north of I-10, the work will need to be continuous from the US Hwy ROW southward (approximately 6400 LF). A new cost estimate has been made for this DSR 019-05-058R to reflect this change.

Bradley A. Sticker
ASCE

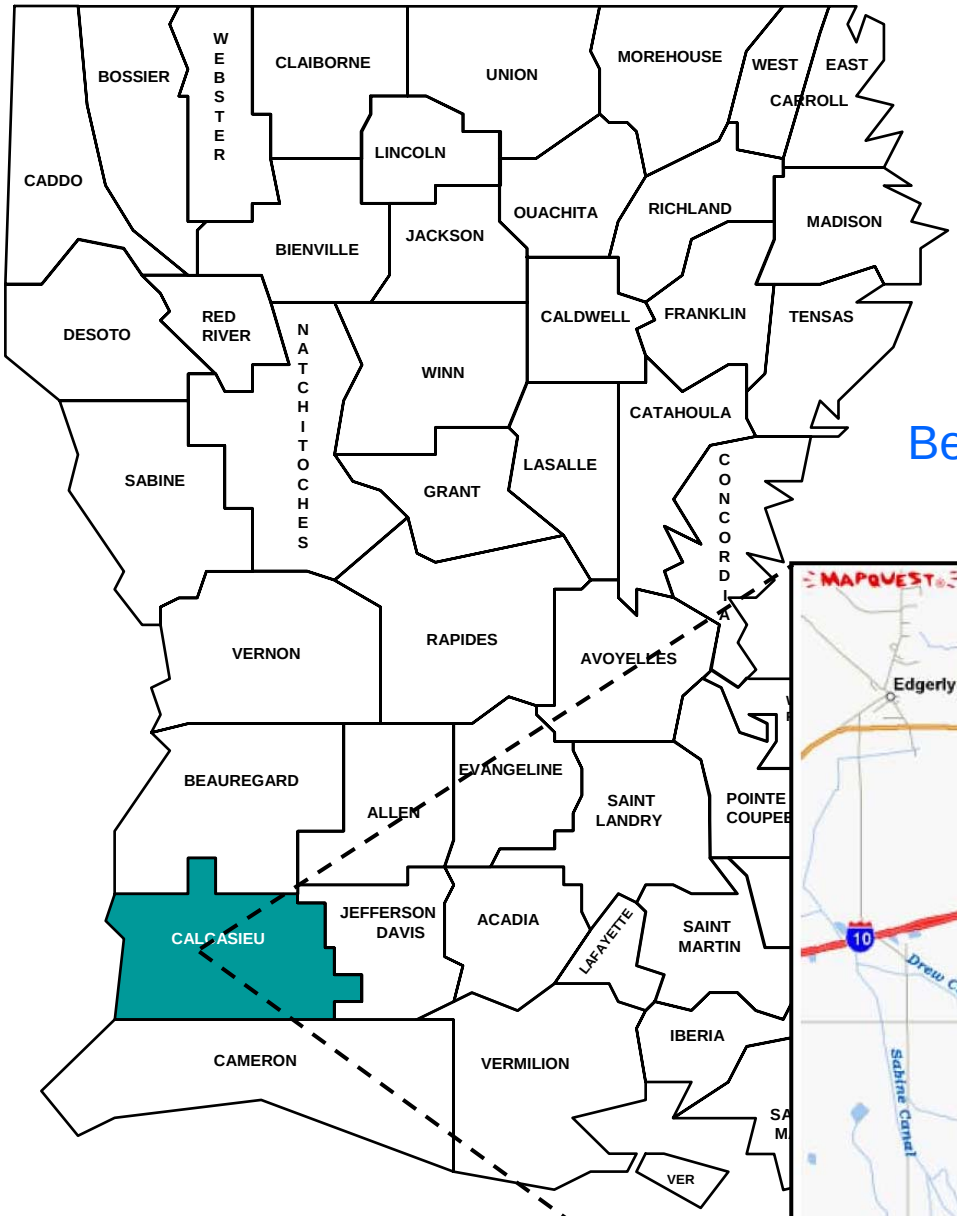
Vicinity Location Map

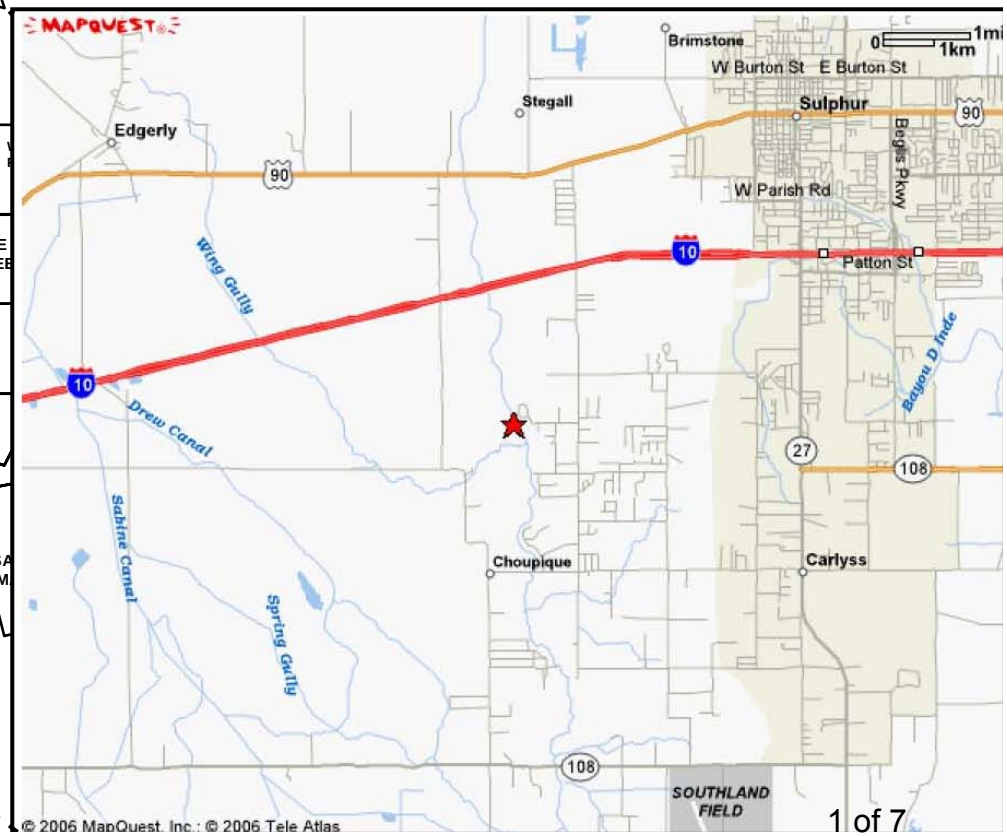
Calcasieu Parish

DSR# 019-05-003R

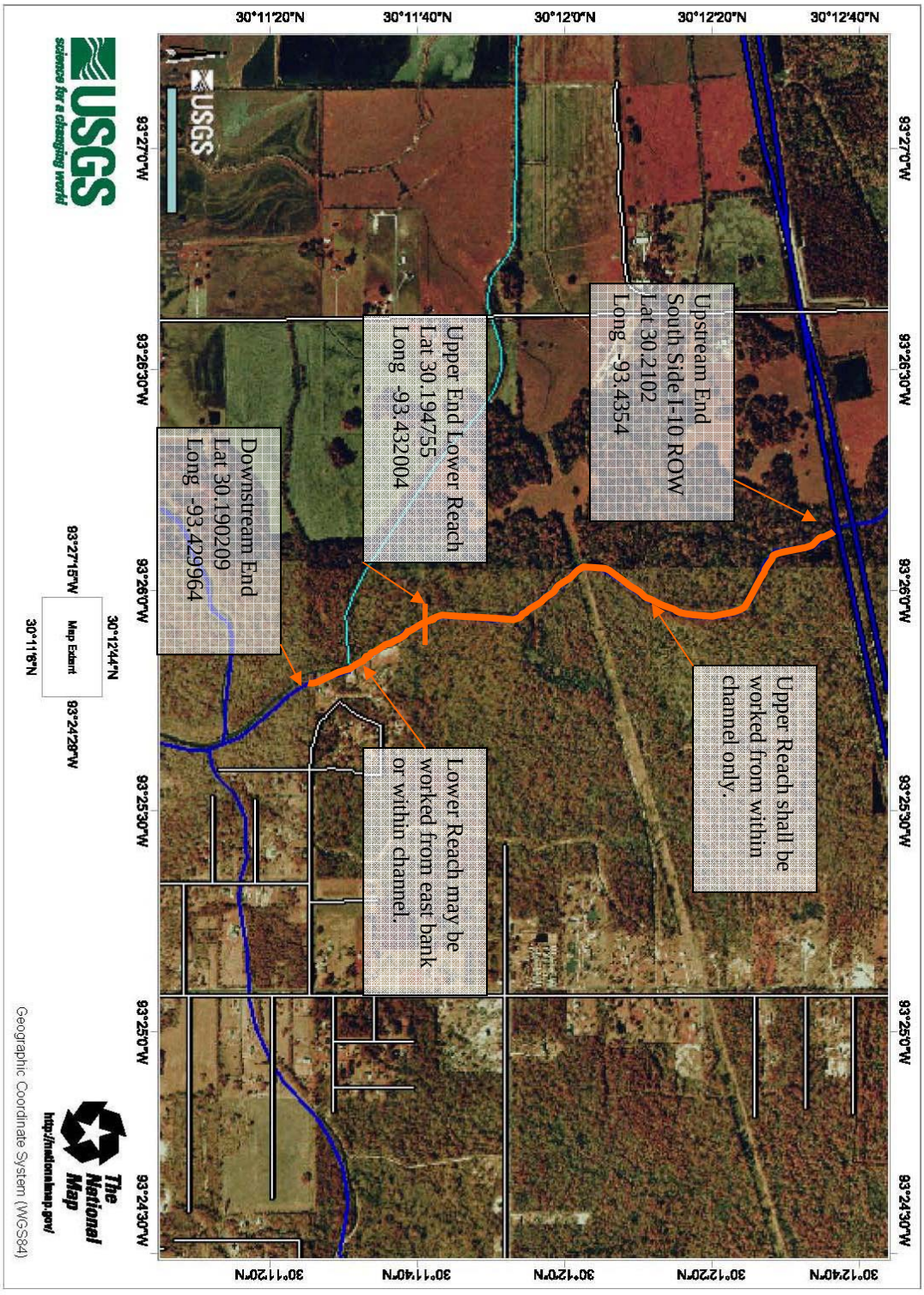
Bayou Choupique

Behind Bayou Circle Residential Area



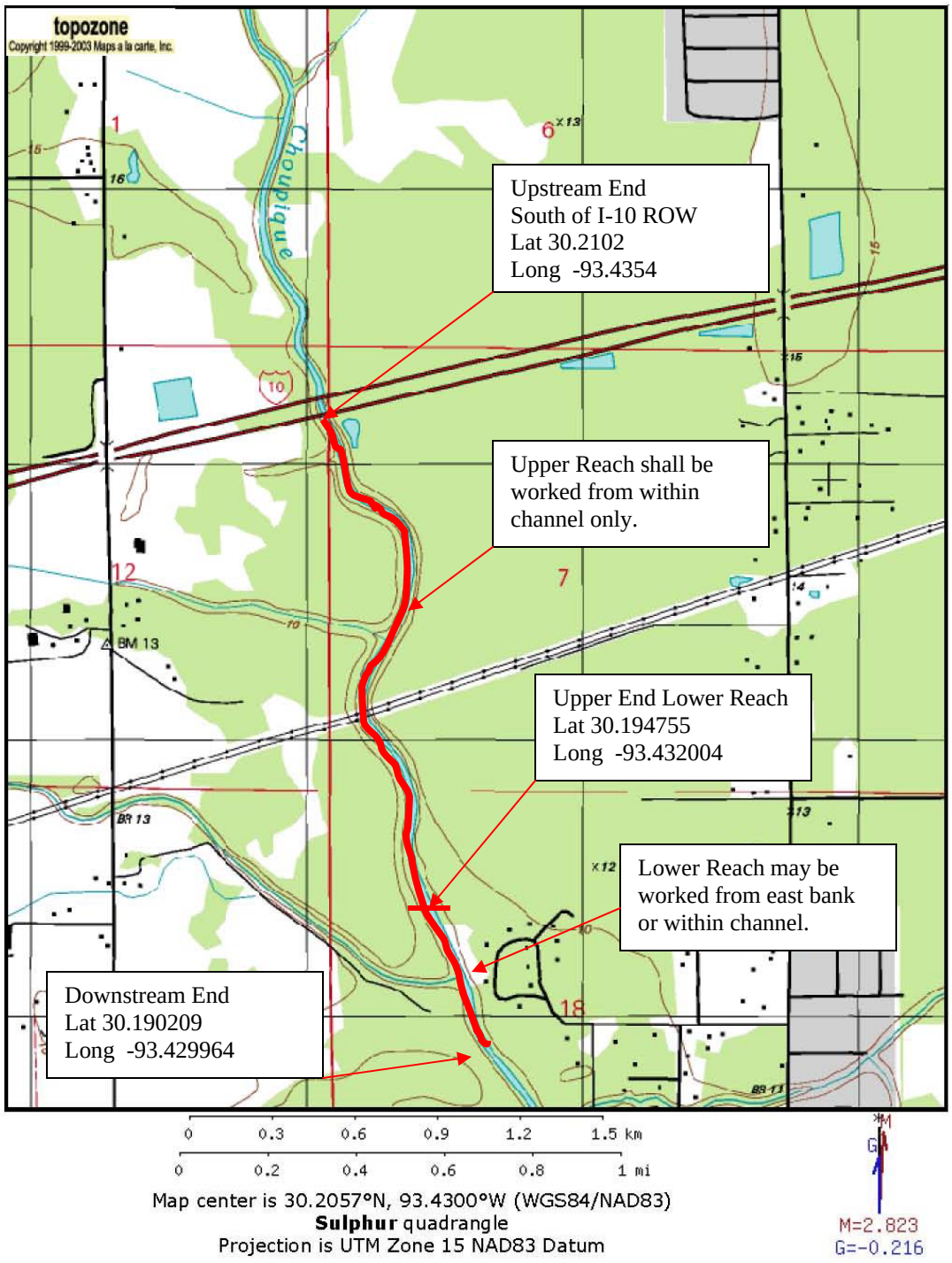


SITE MAP
DSR 019-05-003R
Choupique Bayou
Behind Bayou Circle Residential Area
Calcasieu Parish



TOPO MAP
DSR 019-05-003R
Choupique Bayou
Behind Bayou Circle Residential Area
Calcasieu Parish

TopoZone - The Web's Topographic Map

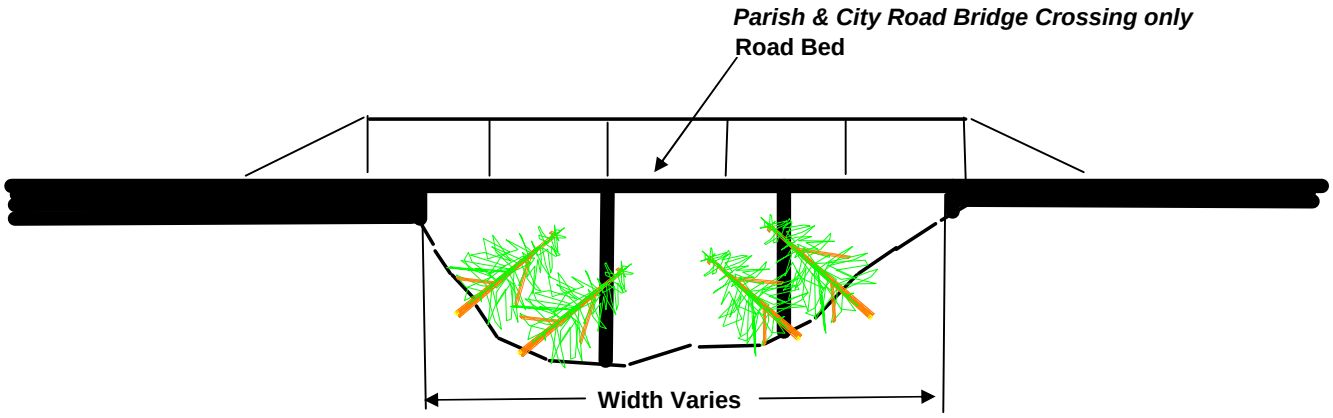


DSR NO: 019-05-003R

CHANNEL: Choupique Bayou (behind Bayou Circle residential area)

PARISH/SPONSOR: Calcasieu / Gravity Drainage District 6

Debris Removal



Note: Contract is to remove Debris from upstream and downstream Bridge which includes underside of bridge
Exception: All Crossing which cross State or Federal highways are not included in contract

Typical Road Bridge Crossing
Not to Scale

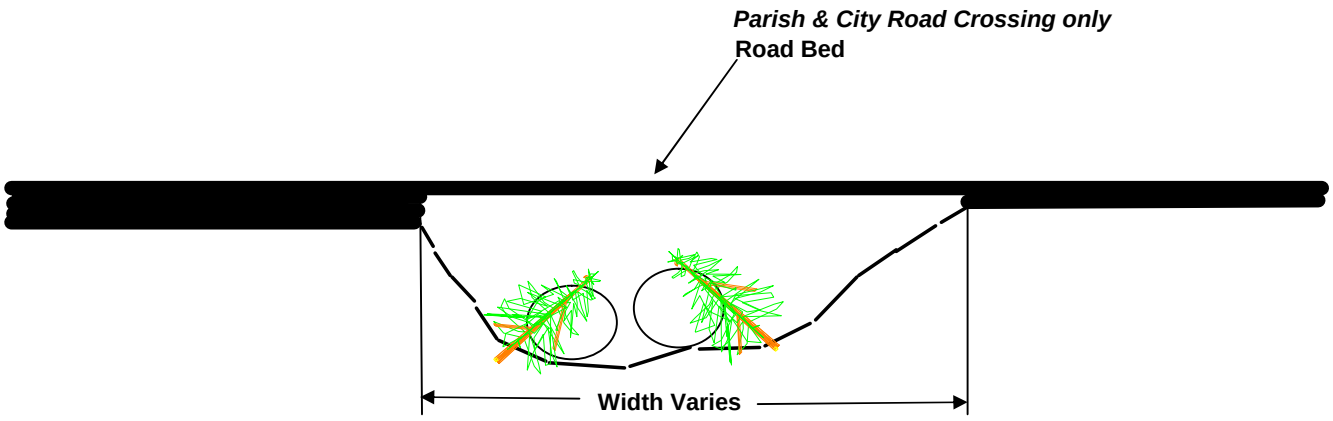
Notice:
48 Hours Before Digging
Call 1-800-272-3020

DSR NO: 019-05-003R

CHANNEL: Choupique Bayou (behind Bayou Circle residential area)

PARISH/SPONSOR: Calcasieu / Gravity Drainage District 6

Debris Removal



Note: Contract is to remove Debris from upstream and downstream Culverts which includes inside of culverts
Exception: All Crossing which cross State or Federal highways are not included in contract

Typical Road Culvert type Crossing
Not to Scale

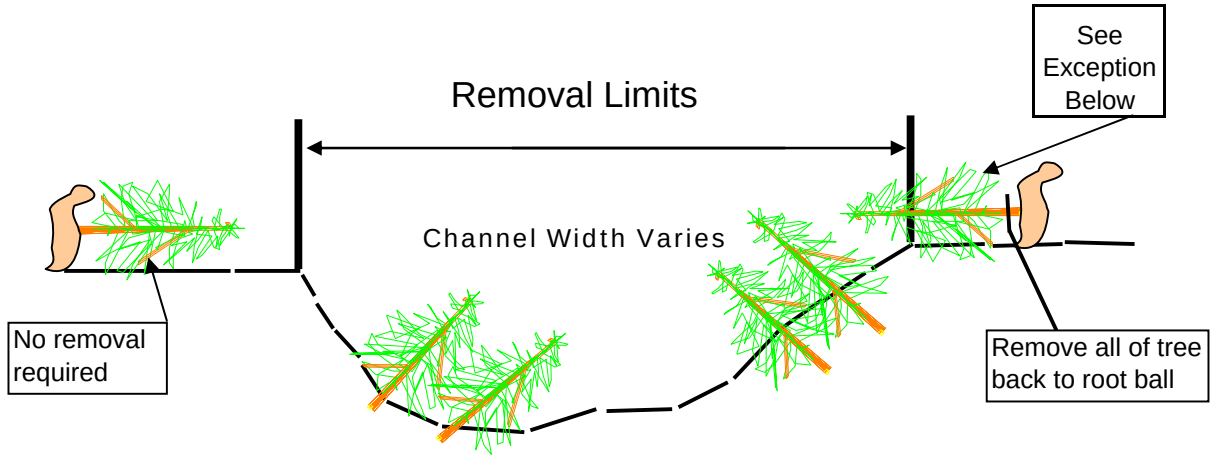
Notice:
48 Hours Before Digging
Call 1-800-272-3020

DSR NO: 019-05-003R

CHANNEL: Choupique Bayou (behind Bayou Circle residential area)

PARISH/SPONSOR: Calcasieu / Gravity Drainage District 6

Debris Removal



Typical Section Reach 2

Notice:
48 Hours Before Digging
Call 1-800-272-3020

***Note**: Work to be performed from within the channel with marsh buggy or barge mounted equipment manditory for reach 2. Reaches 1 and 3 may be worked from within channel.*

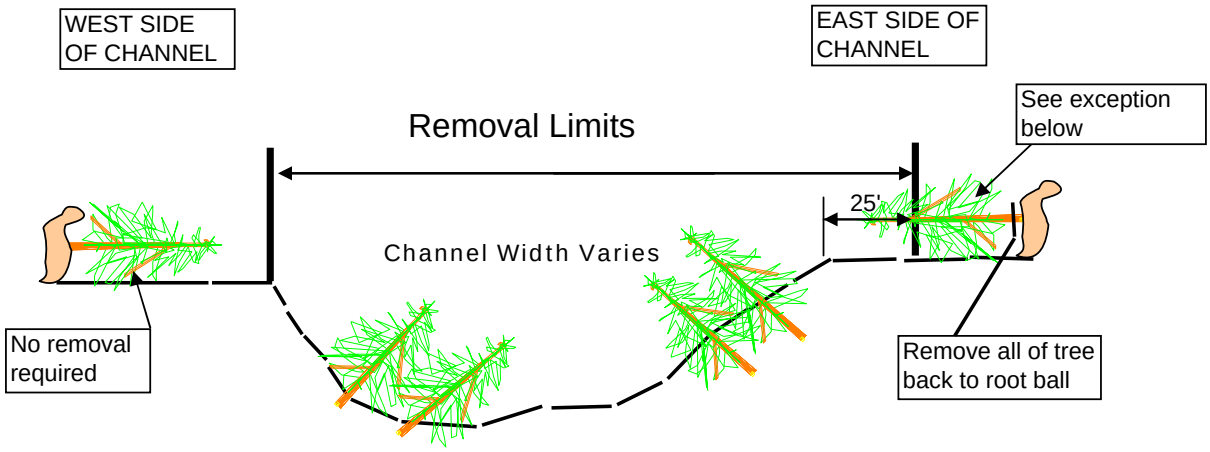
***Exception** it may be possible that trees which were located outside of the the removal limits may have fallen into the removal limits, the entire tree will be removed back to the root ball even if only a portion of the tree is withinthe removal limits*

DSR NO: 019-05-003R

CHANNEL: Choupique Bayou (behind Bayou Circle residential area)

PARISH/SPONSOR: Calcasieu / Gravity Drainage District 6

Debris Removal



Typical Section Reaches 1 & 3

Notice:
48 Hours Before Digging
Call 1-800-272-3020

***Note** : May access and work from east side only for lower reach defined on drawings. This reach may also be worked from within the channel as shown on sheet 6 of 7.*

***Exception** it may be possible that trees which were located outside of the the removal limits may have fallen into the removal limits, the entire tree will be removed back to the root ball even if only a portion of the tree is withinthe removal limits*

DSR No: 019-05-003R | **Preferred Measure**

Section 5 Engineering Cost Estimate Worksheet

Parish: Calcasieu
Channel: CH 28 - CH 29
Location: Choupique Bayou

Completed By: Steve Garner (revised BAS 3/13/06) **Date:** 24-Feb-06

Type of Work: Debris Removal

Location of Work:

Township(s)	Range(s)	Section(s)	Quadrangle(s)
10 S	10 W	18	

	Reach or Channel Seg		Reach or Channel Seg		Reach or Channel Seg	
	Latitude	***Longitude***	***Latitude***	***Longitude***	***Latitude***	***Longitude***
Downstream Start:	30.19021	-93.42996				
Upstream End:	30.21020	-93.43540				

Estimated Length of Work Segment (ft): 8,200

Item No.	Proposed Recovery Measure	Quantity	Units	Unit Cost	Amount
1	Mobilization & Demobilization	1	LS	$10,000.00	$10,000
2	Channel Obstruction Removal (Light)	8,200	LF	$13.30	$109,060
3	Seeding, Sprigging and Mulching	2	AC	$200.00	$400
4	Flexifloat Barge Rental (four units @ $32 ea/day)	60	Days	$128.00	$7,680
5					$0

Note: Estimated cost of debris removal includes labor, hauling, and disposal of material.

Total Estimated Construction Cost **$127,140**

Performance Time:

Production Rate	Segment Length	Production Time	Contract Time
175 Ft/Day	8,200 Ft	46.86 Days	52 Days
		5 Days move in	

Estimated Cost of Equipment with Labor ***(Per Revised Costs by BAS 2-9-06)***

Description of Work:		Cost per LF
Heavy	Used heavy cost est due to complexity of work in channel	$13.30

Estimated Cost of Seeding with Labor

Segment Length	Segment Width	No.of Segment	Acres	Cost per Ac	**Total Cost**
1,800 Ft.	25 Ft.	1	2	$200	$400

Comments:
Proposed action involves working from the east side of the channel and within channel removing only debris obstructing the channel section, NOT floodplains.

DSR No: 019-05-003R | **Alternative Measure**

Section 5 Engineering Cost Estimate Worksheet

Parish: Calcasieu
Channel: CH 28 - CH 29
Location: Choupique Bayou

Completed By: Steve Garner (revised BAS 3/13/06) **Date:** 24-Feb-06

Type of Work: Debris Removal

Location of Work:

Township(s)	Range(s)	Section(s)	Quadrangle(s)
10 S	10 W	18	

	Reach or Channel Seg		Reach or Channel Seg		Reach or Channel Seg	
	Latitude	***Longitude***	***Latitude***	***Longitude***	***Latitude***	***Longitude***
Downstream Start:	30.19021	-93.42996				
Upstream End:	30.21020	-93.43540				

Estimated Length of Work Segment (ft): 8,200

Item No.	Proposed Recovery Measure	Quantity	Units	Unit Cost	Amount
1	Mobilization & Demobilization	1	LS	$10,000.00	$10,000
2	Channel Obstruction Removal (Light)	8,200	LF	$13.30	$109,060
3	Seeding, Sprigging and Mulching	10	AC	$200.00	$2,000
4	Flexifloat Barge Rental (four units @ $32 ea/day)	60	Days	$128.00	$7,680
5					$0

Note: Estimated cost of debris removal includes labor, hauling, and disposal of material.

Total Estimated Construction Cost **$128,740**

Performance Time:

Production Rate	Segment Length	Production Time	Contract Time
175 Ft/Day	8,200 Ft	46.86 Days	52 Days
		5 Days move in	

Estimated Cost of Equipment with Labor ***(Per Revised Costs by BAS 2-9-06)***

Description of Work:		Cost per LF
Heavy	Used heavy cost est due to complexity of work in channel	$13.30

Estimated Cost of Seeding with Labor

Segment Length	Segment Width	No.of Segment	Acres	Cost per Ac	**Total Cost**
8,200 Ft.	25 Ft.	2	10	$200	$2,000

Comments:
Proposed action involves working from the both sides of the channel on lower reach and within channel on upper reach removing only debris obstructing the channel section, NOT floodplains.